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Presentation of the Distinguished Public Service Medal for 1991 to H. Catherine W. Skinner

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President Ross, fellow members of the Mineralogical Society of America, distinguished guests, ladies and gentlemen: the individual we are about to honor this afternoon began her life as Helen Catherine Wild. Born in Brooklyn one January day in 1931, she grew up in Forest Hills near the well-known tennis stadium. In 1952 Helen left the schools and tennis courts of New York for those of New England, where she began her formal education at Mount Holyoke College. It was during her stay at Mount Holyoke that one of her roommates decided that Helen wasn't really a Helen and looked more like a Catherine. Thus the tradition of using her middle name began. After receiving her bachelor's degree from Mount Holyoke, Catherine initiated graduate work in mineralogy at Harvard but claims she took all her exams at Radcliffe. While studying at Harvard, she met a tennis-playing economic geologist about to return to his native Australia. Their marriage required that Mrs. Skinner accompany her new husband to Adelaide. There she was encouraged by Arthur Alderman to pursue a course of study for a doctorate that would result in the publication of several of the earliest reports of primary sedimentary dolomites formed at low temperatures. This pioneering work with the so-called dolomite problem, and with carbonate minerals in general, would eventually draw her into a number of diverse and fruitful collaborative adventures involving the phosphates. She has worked on both high- and low-temperature apatites.

Cathy's involvement with public health–related science began early. In Cambridge, before leaving for Australia, she worked at the Harvard Medical School for a few months doing X-ray work on insulin. Then, after returning to the United States because Brian had accepted a job with the U.S. Geological Survey, Cathy took a position as a Mineralogist with the National Institutes of Health in Bethesda, Maryland. Working first at the National Institute of Arthritis and Metabolic Diseases and then at the National Institute of Dental Research, she faced the challenging task of attempting to educate biologists and biochemists working on collagen, bone, and teeth about mineralogy and crystallography. Through the years, her work has been instrumental in giving them, and us, an appreciation for the intricacies in the crystallography, crystal chemistry, and stability of the apatite mineral group.

Those of you who may have had occasion to work with apatites of biologic origin are aware of the pitfalls to be encountered in dealing with the multitude of ionic substitutions, real and imagined, that may lurk within these minerals, which are almost always of very fine crystallite size. In apatites the halogen substitutions, most notably F, are well known, even to the general public. But, it is the equally important OH and carbonate substitutions that have been a major part of Cathy's enthusiastic involvement with biogenic phospates. She has been an important voice within the bone-and-teeth research community. She has emphasized the metastable nature of these phases and especially the role of the carbonate ion as a mediating influence in what she has called "dynamic reactivity." I recall an impromptu evening discussion on bone, at one of those country conference centers in rural Virginia. She debated the biochemists (with her usual vigorous enthusiasm) regarding the nature and role of the carbonate ion in the so-called precursor phases in developing bone. She pleaded her case for a bit more mineralogical rigor . . . if you please.

Cathy has diversified her interest in public health issues by moving from the comparative tranquility of the world of dentistry and orthopedics to the front-line "heat" of the asbestos battle—another place where a little more mineralogical discipline is called for. Her collaborative effort with President Ross and Clifford Frondel has been their well-received book, *Asbestos and Other Fibrous Materials: Mineralogy, Crystal Chemistry and Health Effects.* Still more recently, Cathy's interests are diversifying once more and have now expanded to include the iron oxides and phosphates of biogenic origin. Iron minerals in biological systems, most notably ferrihydrite, are found in organisms ranging from bacteria to humans, and are obviously important in dealing with health-related issues such as iron-deficiency anemia and iron overload. Much remains to be learned about the mineralogy and crystal chemistry of these phases as well.

I would be remiss if I did not mention one more of Cathy's involvements—her interest in the workings, especially the finances, of a variety of organizations. In her home state of Connecticut, she has worked for the Connecticut Fund for the Environment and served as Treasurer of the New Haven YWCA and as a Trustee for Miss Porter's School. She was elected as the first woman president in the 187-year history of the Connecticut Academy of Arts and Sciences. She has also been president of the Investor's Strategy Institute, an organization she helped found, together with some local New Haven women seeking their own money management wisdom. But, closer to home, I think it is important to recall that she served

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ably on MSA's Finance and Development Committees, acting as Chair for the former. Those of us who served with her know that she took on these jobs with characteristic enthusiasm and dedication. She was helpful in dealing with the important transitions that were made in setting up our business office in Washington, in restructuring our budget format, and in reorganizing the management of the endowments that are now so important to MSA operations.

Together with Brian, Cathy has developed a strong concern for the education of young people in today's world. With three daughters and two granddaughters, the Skinners have earned, if you will, a full measure of appreciation for the needed encouragement that is so important for today's young women looking to the future, especially in the sciences, but elsewhere as well.

Catherine feels that serendipity has played an important part in her life. She views herself as a very lucky person; one fortunate enough to have been in the right place at the right time. Clearly, her career has shown that this serendipity has worked to our advantage as well.

Mr. President, ladies and gentlemen: three words come to mind—involvement, diversity, enthusiasm. In view of her many involvements in the public arena, in view of her diverse studies on phosphates that have led to important contributions in the field of biomineralization, and in view of her enthusiastic desire to help influence public policy in areas mineralogical, it is indeed an honor and a great pleasure for me to present H. Catherine W. Skinner, our society's Distinguished Public Service Medalist for 1991.